Write a program to simulate the working of a queue of integer using an array and provide insert, delete and display operations

```
#include <stdio.h>
#define N 5
int q[N];
int front = -1, rear = -1;
void insert(int);
int delete();
void display();
void main()
{
    int n, choice;
    do
    {
      printf("\n 1. Insert \n 2. Delete \n 3. Display \n 4. Exit \n");
      printf("Enter your option : \n");
      scanf("%d", &choice);
      switch(choice)
      {
        case 1:
          printf("Enter the number to be inserted into queue : \n");
          scanf("%d", &n);
          insert(n);
          break;

        case 2:
          n = delete();
          if(n != -1)
            printf("\n The number deleted is : %d \n", n);
          break;
```

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case 3:
display ( );
break;
case 4
exit (0);
break;

default:
printf ("Invalid option \n");
exit (0);
break;
}
} while(choice != 4);
}
void insert (int num)
{
    if (rear = N-1)
        printf ("\n Overflow);
    else if (front == -1 && rear == -1)
        front = rear = 0;
    else
        rear++
        q [rear] = num;
}
int delete ()
{
    int var;
    if (front == -1 || front > rear)
    {
        printf ("\n Underflow");
        return -1;
```

```
    }
    else
    {
        val = q[front];
        front++;
        if (front > rear)
            front = rear = -1;
        return val;
    }
}

void display()
{
    int i;
    printf("\n");
    if (front == -1 || front > rear)
        printf("\n Queue is empty");
    else
    {
        for (i = front; i <= rear; i++)
            printf("\t%d", q[i]);
    }
}
```

Output:

1. Insert
2. Delete
3. Display
4. Exit

Enter your option:
1

Enter the number to be inserted in the queue : 3

1. Insert
2. Delete
3. Display
4. Exit

Enter your option : 3
4

Date: / /

1 Insert
2. Delete
3. Display
4. Exit
Enter your option : 2
The number deleted is 4

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1-Insert
2. Delete
3. Display
4- Exit
Enter your option :
4